

Reply to comments posted for FCC Docket 17-344

Michael J. Logan, PE

A number of commenters have indicated they oppose use of “wideband” digital modes on amateur radio frequencies. It should be remembered that digital e-mail exchange software such as Winlink, Vara, and others use less than 2.5kHz, roughly the same as SSB transmissions on HF. These are not “wideband” digital modes. Further, there is not a one-to-one correlation between baud rate and symbol rate. But, artificial limits from a bygone era only hamper utilization of advanced technology.

Today, there are a number of message passing software packages in addition to Winlink. Among these are flmsg, PSKmail, and others. In the case of PSKmail, the total bandwidth required is less than 500Hz. On a typical 3kHz sliver of frequency, this would support as many as 6 simultaneous exchanges on the same dial frequency. Obviously this is not “wideband” either.

Were the FCC to remove the symbol rate limits, which I support, software and hardware developers would see a re-vitalized amateur radio market, and perhaps public emergency communications users as well. With the ubiquitous nature of advanced processing and compression hardware such as SDR, DSP, and FPGA units, the thruput of digital modes can be greatly increased with no increase in the bandwidth required.

It would be advantageous to both amateur radio operators as well as emergency communications operators to have a number of high-data rate digital frequencies, low data rate digital frequencies for legacy modes such as PSK31, RTTY, Olivia, CW, and others, along with a number or range of voice-only frequencies. These sets of frequencies would need to exist on several bands to be effective under all propagation conditions. By “segregating” certain modes to certain portions of the various bands, utilization can be maximized for all users of the HF spectrum. It would be advantageous for amateur radio operators engaged in providing emergency communications to be able to use a maximum of 3kHz on specifically identified frequencies or ranges of frequencies. Further, it would also be advantageous to use even broader band emissions, including FHSS, if the FCC can determine portions of spectrum outside the current amateur band allocations suitable for these types of modalities.

Michael J Logan, PE

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